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JERRY.SHORMA@HP.COM  
ipa.mail@hp.com  
laura.m.clark@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAMES J. DeBLANC, ANDREW MICHAEL CHERNISKI, and  
HERBERT J. TANZER

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Appeal 2009-003847  
Application 10/646,572  
Technology Center 2800

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Before ROBERT E. NAPPI, KENNETH W. HAIRSTON, and  
CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

WHITEHEAD, JR., *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

## STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-23 and 50. Appeal Brief 4. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We affirm.

## BACKGROUND OF THE INVENTION

Appellants' invention is directed to a method of forming an optical communication path within an optical device. *See* Appeal Brief 6.

Claim 1, which further illustrates the invention, follows:

1. A method of forming an optical communication path, comprising:
  - a) creating a channel within a planar layer in a first substrate of a multi-layered printed circuit board (PCB) and within a planar layer in a second substrate of the multi-layered PCB;
  - b) forming at least a portion of an optical path within the channel of the first and second substrates, the first and second substrates being stacked together in the multi-layered PCB; and
  - c) optically coupling with a switch the channel in the first substrate with the channel in the second substrate.

### *The Rejections*

Claims 1 and 50 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hosoya (US 5,432,873; Jul. 11, 1995).

Claims 2, 4, 5, and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoya and Steinberg (US 2003/0118310 A1; Jun. 26, 2003).

Claims 2-5 and 12-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoya and White (US 6,624,077 B2; Sep. 23, 2003).

Claims 2, 6-9, and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoya and Takizawa (US 2001/0026670 A1; Oct. 4, 2001).

Claims 16, 18, 19, and 21-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over White and Yoshimura (US 6,693,736 B1; Feb. 17, 2004).

Claims 17 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over White, Yoshimura, and Steinberg.

### ISSUE

Does Appellants' claimed substrate have a distinctive meaning in the optical art that distinguishes it over the layers of the prior art?

### PRINCIPLE OF LAW

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

### ANALYSIS

Appellants argue Hosoya does not disclose a waveguide formed within the substrates as claimed but discloses that the waveguide is above the substrate. *See* Appeal Brief 10; Reply Brief 2-3. Appellants argue that the term substrate has a distinct meaning to one skilled in the art that would distinguish it over the layer relied upon by the Examiner in Hosoya. Appeal Brief 12. It is the Examiner's position that the term substrate is broad, and therefore the claimed substrate would read upon the layers or

substrates disclosed in Hosoya. *See Answer 10.* We do not find Appellants' argument to be persuasive because, in spite of Appellants' contention that substrate has a distinctive meaning in the art, Appellants have failed to identify the meaning in the art and why the Examiner's interpretation is unreasonable. Instead of providing a definition, Appellants rely upon the statement, "One skilled in the art of optical switches uses these specific terms to describe and understand the technology." *See Appeal Brief 12.* Further, as claim 1 recites, "creating a channel within a planar layer in a first substrate of a multi-layered printed circuit board (PCB) and within a planar layer in a second substrate of the multi-layered PCB;" the claimed substrates are layers within the multi-layered PCB, and therefore Appellants' alleged distinctive meaning for the term substrate is not evident in claim 1. Therefore, we will sustain the Examiner's rejection of claim 1.

Appellants argue that claim 50 is allowable over Hosoya because nowhere in the section (column 7, lines 1-25) cited by the Examiner is there any mention of the optical switch having an opaque state, preventing the passing of light, or a transparent state, permitting the passage of light. *See Appeal Brief 13.* The Examiner asserts that Hosoya discloses an optical switch having photochromic operation with a drastic change in the refractive index that allows for either full passage (transparent) or blockage (opaque) of an optical signal. *See Answer 11.* Appellants do not challenge the Examiner's position. We agree with the Examiner that although Hosoya does not employ the terms "opaque" or "transparent" it is clear that Hosoya's optical switch manipulates the optical signal in the same manner as recited in claim 50 and therefore we will sustain the Examiner's rejection of claim 50.

Appellants further argue that claims 16, 18, 19, and 21-23 rejected under 35 U.S.C. 103(a) over White and Yoshimura are allowable because claim 16 recites elements that are not taught or suggested by the references. *See* Appeal Brief 14. Appellants argue that nowhere does White in view of Yoshimura teach or even suggest the “to connect the composite channel” recitation in claim 16. *See* Appeal Brief 15. Appellants further argue that nowhere does Yoshimura teach or even suggest vias that connect “composite channels with different optical pathways.” *Id.*; Reply Brief 4. It is the Examiner’s position that White discloses a composite channel and, in combination with Yoshimura, the combination would result in a multilayer structure of optical paths having vias that connect the paths where the actual path structure is a composite channel structure. *See* Answer 7, 8, 13. Appellants do not address White’s disclosure of the composite channel; therefore, we find the Examiner’s arguments to be persuasive. Further, Appellants’ arguments about the “substrate” limitation in the claims are not persuasive for the reasons we have stated above. Therefore, we will sustain the Examiner’s obviousness rejection of claims 16, 18, 19 and 21-23.

For the above reasons, we are also affirming the rejections of dependent claims 2-15, 17, and 20 whose merits are not separately argued. *In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987) (dependent claims, not argued separately, fall with the independent claim, even though the dependent claims were rejected based on additional (or different) references.).

DECISION

We affirm the Examiner's 35 U.S.C. § 102(b) rejection of claims 1 and 50 over Hosoya.

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 2, 4, 5, and 9-11 over Hosoya and Steinberg.

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 2-5 and 12-15 over Hosoya and White.

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 2, 6-9, and 14 over Hosoya and Takizawa.

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 16, 18, 19, and 21-23 over White and Yoshimura.

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 17 and 20 over White, Yoshimura, and Steinberg.

TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

ORDER  
AFFIRMED

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
3404 E. Harmony Road  
Mail Stop 35  
FORT COLLINS, CO 80528